CHAPTER 8

FIRE MANAGEMENT

8 - Fire Management

Fire Management

Wildfire

The first and foremost concerns in wildfire control are the safety of personnel and the prevention of damage to property. During wildfire suppression, fireline BMPs that slow containment efforts must take a lower priority than fire suppression. Potential effects of firelines should be dealt with at a later time.

Stabilize all areas that have significantly increased erosion potential or drainage patterns altered by fire suppression activities.

Treatments for damage include but are not limited to:

1. Installing water bars and other drainage diversions in fire roads, firelines, and other clear areas.
2. Seeding, planting and fertilization to provide vegetative cover.
3. Spreading slash or mulch to protect bare soil.
4. Repairing damaged road-drainage structures.
5. Clearing stream channels of debris deposited by excessively burned soils.
6. Scarification may be necessary to encourage percolation on excessively burned soils.

Incident Command Areas and Staging Areas

1. Protect surface and subsurface water resources from nutrients, bacteria and chemicals associated with solid waste and sewage disposal.
2. Locate these sites away from active streams.
3. Garbage and other solid waste is also a concern and these materials should be collected and disposed of at a properly designated, operated and permitted landfill.

Wildfire Rehabilitation Plan

Minimize soil and site productivity loss, threats to life and property, and deterioration of water quality both on and off the site by:

1. Seeding grasses or other vegetation to provide a protective cover as soon as possible on steeper grades;
2. Fertilizing;
3. Stabilization of actively eroding gullies, when possible;
4. Ensuring that all road surfaces are stabilized and protected;
5. Fencing, where necessary, to protect new vegetation; and
6. Clearing all debris from the wildfire from stream channels.

Prescribed Burning

Prescribed fire is an important and useful silvicultural tool. It can be used to prepare a site for planting by reducing logging debris or to prepare a seedbed for seed fall. Prescribed fire can also be used in established stands for silvicultural purposes, wildlife habitat improvement and hazard reduction. A concern in the use of fire for any of these management purposes is the effect of the prescribed fire on surface runoff and soil erosion.

Studies have shown that properly planned and conducted prescribed burning has a minimal impact on water quality in the South. Most problems associated with prescribed burning can be minimized with proper planning, awareness of changing weather conditions, and by following the guidance of a certified prescribed burn manager who has been through The Virginia Department of Forestry's *Certified Burn Manager Program*.

BMPs for Prescribed Burning

1. Site preparation burns on steep slopes or highly erodible soils should only be conducted when they are absolutely necessary and should be of low intensity.

2. A significant amount of soil movement can occur when preparing for prescribed burns. Firebreaks should have water control structures in order to minimize erosion. Locate firelines on contours as much as possible. Water bars should be constructed in firelines at frequent intervals to slow surface runoff in areas subject to accelerated erosion, such as steep grades or highly erodible sloping firelines. (See Appendix A for water bar specifications.)

3. Site preparation burning creates the potential for soil movement. All efforts should be made to keep high-intensity site prep burns out of SMZs.

4. Use hand tools when necessary to connect firelines into stream channels.

5. Avoid burning when conditions will cause a fire to burn too hot and expose mineral soil to erosion.

6. Avoid allowing high-intensity fire to enter SMZs.

7. Avoid burning on severely eroded forest soils when the average duff layer is less than one-half inch.

Fireline Construction Methods

Fireline construction is an essential part of forest management and wildfire control. A number of erosion control practices can be implemented during fireline construction to prevent unnecessary erosion.

BMPs for Fireline Construction

1. Firelines should be constructed along the perimeter of the burn area, and when prescribed along the boundary of the SMZ. The purpose of protecting the SMZ from fire is to safeguard the filtering effects of the leaf litter and organic material. If a fireline along the SMZ boundary is not prescribed, allowance should be made for a low-intensity backing fire within the SMZ.

2. Firelines should follow the guidelines established for skid trails with respect to water bars and wing ditches and should only be as wide and as deep as necessary to permit safe prescribed burns.

3. Firelines that approach a drainage should be turned parallel to the stream or include the construction of a wing ditch or other structure that diverts concentrated runoff into the woods prior to entry into the stream channel.

4. Firelines on highly erodible sites should be inspected periodically to correct any developing erosion problems before they become too serious.

5. Avoid disturbing existing gullies where possible.

6. Avoid disturbing any more soil surface than necessary.

7. Avoid plowing straight up and down a slope, where possible.

8. Revegetate bare soil areas with slopes greater than 5%, where practical.

NOTES